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# **Flight Operations Segment (FOS) Release A Instrument Support Terminal (IST) Toolkit Release Notes for the ECS Project**

**White Paper**

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# Abstract

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This document serves as a companion document to the Flight Operations Segment (FOS) Operations Tools Manual for the ECS Project to provide the information needed to operate the Release A FOS Instrument Support Terminal (IST) toolkit software. This document also provides Release A IST users with information that is unique to FOS Release A IST operations (i.e., IST-unique startup procedures, IST problem reporting) that is not covered in the FOS Operations Tools Manual.

**Keywords:** User's, Manual, tools, IST, FOS, Operations, EOC

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# 1. Introduction

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## 1.1 Purpose

The purpose of the Flight Operations Segment (FOS) Release A Instrument Support Terminal (IST) Toolkit Release Notes for the ECS Project is to provide FOS Release A IST users with information on the Release A EOSDIS Core System (ECS) IST toolkit functionality.

The FOS Operations Tools Manual for the ECS Project serves as the users' guide for the entire set of FOS Software delivered to the EOS Operations Center (EOC) for Release A. The ECS IST consists of a subset of the FOS software delivered to the EOC. The FOS Release A IST Toolkit Release Notes serves as a companion document to the FOS Operations Tools Manual in that it identifies the portions of the FOS Operations Tools Manual that are applicable to operations of the Release A IST software.

This document also provides Release A IST users with information that is unique to FOS Release A IST operations (i.e., IST-unique startup procedures, IST problem reporting) that is not covered in the FOS Operations Tools Manual.

## 1.2 Organization

This paper is organized as follows:

- a. Section 1 provides information regarding the purpose, organization, review, and approval of this document.
- b. Section 2 provides an overview of FOS Release A contents and status.
- c. Section 3 provides an overview of Release A IST functionality and limitations.
- d. Section 4 provides describes the applicability of the FOS Operations Tools Manual to operations and tools of the Release A IST toolkit.
- e. Section 5 provides instructions on IST problem reporting.
- f. The document concludes with a list of Abbreviations and Acronyms. This is an alphabetized list of definitions for abbreviations and acronyms used in this document.

## 1.3 Review and Approval

This White Paper is an informal document approved at the FOS Office Manager level. It does not require formal Government review or approval; however, it is submitted with the intent that review and comments will be forthcoming.

The ideas expressed in this White Paper are valid until the time when the Release B IST software is delivered; the concepts presented here are expected to migrate into the FOS Operations Tools Manual for the ECS Project.

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## **2. FOS Release A Status**

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### **2.1 Overview of FOS Release A**

FOS Release A consists of portions of the FOS which has been delivered to support critical early interface tests and to demonstrate partial system functionality. The document which describes the partial FOS functionality planned for FOS Release A is the Flight Operations Segment (FOS) Release Plan and Development Plan for the ECS Project.

Since FOS Release A consists of partial functionality, it is not intended to support full operations for the EOS AM1 mission. The remaining FOS functional and performance enhancements which are required to support EOS AM1 mission operations are scheduled for delivery in FOS Release B.

### **2.2 Contents of the FOS Release A Software**

The FOS Release A software which has been delivered to the EOC is described in the FOS Release A Version Description Document (VDD) for the ECS Project. The FOS Release A VDD describes the contents of the latest version of the FOS Release A software, including COTS, custom FOS ECS software, and accompanying documentation.

### **2.3 Non Conformance Reports for FOS Release A**

Open Non Conformance Reports (NCRs) related to FOS Release A are tracked in the ECS Distributed Defect Tracking System (DDTS). Open NCRs are summarized in the FOS Monthly Tabulation of Software Errors for the ECS Project.

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## 3. Release A IST Toolkit Functionality

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### 3.1 Overview

The ECS IST toolkit delivery for Release A consists of a subset of the FOS software which was delivered to the EOC for Release A. Since FOS Release A consists of partial functionality, it is not intended to support full operations for the EOS AM1 mission.

This section of the FOS Release A IST Release Notes provides a description of the limited functions which are available to IST users in Release A.

Release A ISTs may be configured in a “connected” mode (i.e., connected to the EOC Data Server and/or Real Time Server) or in a “standalone” mode (i.e., not connected to the EOC). Release A IST capabilities in a standalone mode are very limited. These limitations also are described the following paragraphs of Section 3.

The full complement of FOS functional and performance enhancements to the IST toolkit which are required to support EOS AM1 mission operations are scheduled for delivery in FOS Release B.

### 3.2 Release A IST Functionality & Limitations

Release A IST functionality and limitations are summarized in Table 3-1. For additional detail refer to the FOS Operations Tools Manual and Section 4 of this document.

***Table 3-1. Release A IST Functionality & Limitations (1 of 8)***

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
Control Window & Mini-Control Window	<u>Capabilities:</u> Provides capability to select FOS Tools, enter ECL directives, display real time Event Messages, Accessing Telemetry and Ground System Parameter displays. <u>Limitations:</u> Room Buttons and Procedures menu are not operational. Context-sensitive Help menus are not available. Planning & scheduling tools are started via a startup script; they are not started via the FOS Tools menu.	Not available in standalone mode.

**Table 3-1. Release A IST Functionality & Limitations (2 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
ECS Command Language (ECL)	<p><u>Capabilities:</u> ECL directives can be entered via the Control Window, Mini-Control Window. All ECL directives included in Rel. A can be utilized in the Procedure Builder tool.</p> <p><u>Limitations:</u> Real time command directives, which are preceded by CMD or /, cannot be executed by the IST but may be utilized in the Procedure Builder tool.</p> <p>Telemetry parameter mnemonics within ECL directives are not supported.</p>	Not available in standalone mode.
Procedure Building	<p><u>Capabilities:</u> Build and syntax-check ECL procedures.</p> <p><u>Limitations:</u> Procedure validation is not available. Procedure “type” is not verified. Configuration Management of procedures at the EOC is not operational.</p>	No standalone limitations.
Display Builder	<p><u>Capabilities:</u> Build telemetry display page definitions using the capabilities described in the FOS Operations Tools Manual.</p> <p><u>Limitations:</u> Cannot delete page definitions using this tool. Display parameters are limited to those defined in the Project Data Base (PDB).</p>	No standalone limitations.

**Table 3-1. Release A IST Functionality & Limitations (3 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
Procedure Execution	<p><u>Capabilities:</u>            Execute local ECL procedures via Control Window.            Procedures will execute in the background (will not be expanded).  <u>Limitations:</u>            ECL directives within ECL procedures are limited to Rel. A IST functions (e.g., ECL procedures with commands cannot be executed.)            Procedure Control Display is not available.</p>	Not available in standalone mode.
Event Messages	<p><u>Capabilities:</u>            View event messages via the Control Window and the Event Display.            Filter event messages by “subsystem” and “type”, retrieve historical events.  <u>Limitations:</u>            none.</p>	Not available in standalone mode.

**Table 3-1. Release A IST Functionality & Limitations (4 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
Activity Definer	<p><u>Capabilities:</u></p> <p>Activity definitions include commands, command submnemonic parameters, mode transitions, ECL directives, &amp; command procedures.</p> <p>Capability to define new activities &amp; store locally. Modify &amp; delete existing activities (locally).</p> <p><u>Limitations:</u></p> <p>Orbit events are limited to those pre-defined in the database.</p> <p>All components of an activity must be associated with a single Resource. Resources are pre-defined in the data base.</p> <p>Activity definer startup via Startup script only (not Control Window Tools menu).</p> <p>Central EOC data base storage of activity definitions is not available; activity definitions are stored locally at the IST.</p>	No standalone limitations.
Baseline Activity Profile (BAP) Definer	<p><u>Capabilities:</u></p> <p>BAP definitions consist of activities, where each activity is scheduled relative to orbital events within the scheduling period.</p> <p>Capability to define new BAPs &amp; store locally. Modify &amp; delete existing BAPs (locally).</p> <p><u>Limitations:</u></p> <p>BAPs cannot be scheduled.</p> <p>Orbit events are limited to those pre-defined in the database.</p> <p>BAP definer startup via Startup script only (not Control Window Tools menu).</p> <p>Central EOC data base storage of BAP definitions is not available; BAP definitions are stored locally at the IST.</p>	No standalone limitations.



**Table 3-1. Release A IST Functionality & Limitations (5 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
ASTER One Day Schedule (ODS) & Short Term Schedule (STS) Ingest	<p><u>Capabilities:</u></p> <p>Ability to ingest and schedule ASTER ODSs and STSs on a local schedule (plan). Scheduled activities are viewable via the Timeline display.</p> <p><u>Limitations:</u></p> <p>ASTER Filter software must be manually started; software does not automatically “poll” for arrival of the ODS or STS file.</p> <p>Preliminary Resource Schedule, Activity Schedule, and Detailed Activity Schedule files are not generated.</p> <p>Activities can only be scheduled on a local schedule. Schedules are not integrated across EOC/IST sites.</p>	No standalone limitations.
Scheduling Activities	<p><u>Capabilities:</u></p> <p>Activity scheduling by absolute time or by orbit event.</p> <p>Scheduling modes: Impact, Non-Impact, Non-Impact with Oversubscription (refer to the FOS Operations Tools Manual).</p> <p>Modification of command submnemonic parameters.</p> <p><u>Limitations:</u></p> <p>Activities can only be scheduled on a local schedule. Schedules are not integrated across EOC/IST sites. Load uplink scheduling, TDRSS contact scheduling, BAP scheduling, and individual command/command procedure scheduling are not available.</p> <p>Orbit events are limited to those pre-defined in the database.</p> <p>User privileges for scheduling are not implemented.</p> <p>Deleting (unscheduling) activities is not available.</p> <p>General Scheduler startup via Startup script only (not Control Window Tools menu).</p>	No standalone limitations.

**Table 3-1. Release A IST Functionality & Limitations (6 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
Viewing Activities via the Timeline Display	<p><u>Capabilities:</u>  Open a schedule (plan).  Timeline display configuration/customization.  View scheduled activities and modes.</p> <p><u>Limitations:</u>  Saving &amp; deleting plans is not available.  Resource names are pre-defined in the database.  Timeline startup via Startup script only (not Control Window Tools menu).  Resource utilization summary is not available.</p>	No standalone limitations.
Detailed Activity Schedule (DAS) and Absolute Time Command (ATC) Load Generation	<p><u>Capabilities:</u>  None.</p> <p><u>Limitations:</u>  These capabilities is limited to EOC operators.</p>	Not available in standalone mode.
Spacecraft & Instrument Loads	<p><u>Capabilities:</u>  Table Load Builder can be used to create spacecraft and table contents for tables that are pre-defined in the PDB.</p> <p><u>Limitations:</u>  Cannot ingest loads.  Cannot generate, validate, schedule, or uplink table or microprocessor loads.  Table ingest function does not translate table data into uplink format.  Table loads are limited to tables pre-defined in the PDB.</p>	Not available in standalone mode.

**Table 3-1. Release A IST Functionality & Limitations (7 of 8)**

Functionality	Rel. A IST “Connected-” Capabilities & Limitations	Rel. A IST “Standalone” Limitations
Joining a Real Time Logical String	<p><u>Capabilities:</u></p> <p>Join a real time string that has been previously created by EOC operators.</p> <p>Monitor real time telemetry (via Dynamic Telemetry Pages).</p> <p><u>Limitations:</u></p> <p>IST users cannot create, reconfigure, or delete logical strings.</p> <p>IST users cannot receive command authority or access the Command Control Window.</p> <p>IST users cannot monitor real time command (via the Command Monitor Window).</p>	Not available in standalone mode.
Command Control Window/ Command Monitor Window	<p><u>Capabilities:</u></p> <p>None.</p> <p><u>Limitations:</u></p> <p>Command Control Window is not available to IST users.</p> <p>Real time ground script updates are not available to the Command Monitor Window.</p>	Not available in standalone mode.
Spacecraft & Instrument Telemetry Monitoring	<p><u>Capabilities:</u></p> <p>Monitor real time telemetry via dynamic display (when connected to a Real Time Logical String).</p> <p><u>Limitations:</u></p> <p>Telemetry schematic displays are not available.</p> <p>Default formats only for telemetry displays (i.e., no user formatting).</p> <p>Full telemetry subsystem performance was not delivered in Release A; periodic telemetry packet dropouts can be expected.</p>	Not available in standalone mode.

**Table 3-1. Release A IST Functionality & Limitations (8 of 8)**

Functionality	Rel. A IST "Connected-" Capabilities & Limitations	Rel. A IST "Standalone" Limitations
Analysis	<u>Capabilities:</u> Build and execute Offline Analysis Requests. <u>Limitations:</u> Users must FTP the appropriate telemetry archive files from the EOC to a specified directory. User defined algorithms are not available in Release A. Plots, graphs, and reports are not available in Release A. Processing speed not optimized in Release A.	Not available in standalone mode.
History Data	<u>Capabilities:</u> View historical event messages. <u>Limitations:</u> Historical telemetry data and analysis services on historical telemetry data are not available to IST users.	Not available in standalone mode.
Project Data Base (PDB) Management	<u>Capabilities:</u> Command, telemetry, and table definitions pre-defined and delivered with IST Release A. These definitions can be used for activity definition, procedure definition, table creation, and dynamic page definition. <u>Limitations:</u> ISTs are limited to PDB command and telemetry definitions delivered with the Rel. A IST toolkit. PDB editing capabilities (edit, delete) are not available.	PDB access & usage is limited to standalone functions.

## **4. Release A IST Toolkit Operations & Tools**

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### **4.1 Installation Instructions for the Release A IST Toolkit**

Instructions for installation of the Release A IST toolkit software are documented in the FOS Release A IST Toolkit Installation Guide.

### **4.2 EOC System Operations**

#### **4.2.1 Applicability of the FOS Operations Tools Manual Section 4**

The EOC System Initialization procedures described in Section 4 of the FOS Operations Tools Manual are not applicable to IST operations.

#### **4.2.2 IST Unique Operations**

In order for an IST to operate in “connected” mode (i.e., connected to the EOC Data Server and/or Real Time server), the operators at the EOC must first initialize the EOC Data Server and Real Time Server as described in Section 4 of the FOS Operations Tools Manual.

### **4.3 User Station Operations**

#### **4.3.1 Applicability of FOS Operations Tools Manual Section 5**

The User Station Startup procedures described in Section 5.1 of the FOS Operations Tools Manual are not applicable to IST operations. Refer to Section 4.3.2.1 below for a description of IST-unique startup procedures.

Window Management procedures described in Section 5.2 of the FOS Operations Tools Manual are applicable to IST operations.

Room Management procedures described in Section 5.3 of the FOS Operations Tools Manual are applicable to IST operations.

System Logout procedures described in Section 5.4 of the FOS Operations Tools Manual are applicable to IST operations.

#### **4.3.2 IST Unique Operations**

##### **4.3.2.1 Procedures for IST Startup**

To startup an IST user station, operators first login to UNIX by entering their user names and passwords. The UNIX System Administrator at the IST site maintains the user name and password list as well as associated user permissions. Once the correct user name and password

is entered, the Motif window manager starts on the user station. The operator clicks the right mouse button to activate the Workspace menu and selects **xterm** to open a window for the entry of commands.

To operate in a connected mode, type the following UNIX commands at the prompt in the xterm window:

- a. `userstation{username}1: cd /fos/ist/am1/script/setup`
- b. `userstation{username}2: IST_UserStationStartup`

To operate in a standalone mode, type the following UNIX commands in the xterm window:

- a. `userstation{username}1: cd /fos/ist/am1/script/setup`
- b. `userstation{username}2: IST_Standalone`

For IST operators, the planning and scheduling tools are started via the startup scripts which run when the operator enters the italicized commands above rather than the Tools menu.

#### **4.3.2.2 Control Window**

The Control Window opens once the operator starts the user station in the connected mode by entering the `IST_UserStationStartup` startup command above. The Room buttons (**R1**, **R2**, ..., **R6**) and Procedures menu (**Procs...**) are not operational on the Control or Mini-Control Window. Context sensitive help is not available through the **Help** button on the Control or Mini-Control Window. In the standalone mode, the Control Window is not available.

#### **4.3.2.3 Command Control Window/Command Monitor Window**

The Command Control Window is not available. Selecting the Command Control Window will open a Command Monitor Window which displays the contents of the ground script without real time updates.

### **4.4 ECS Command Language**

#### **4.4.1 Applicability of FOS Operations Tools Manual Section 6**

The ECL Directive procedures described in Section 6.1 of the FOS Operations Tools Manual are applicable to IST operations. Refer to Section 4.4.2 below for a description of limitations.

The ECL Procedures described in Section 6.2 of the FOS Operations Tools Manual are applicable to IST operations. Refer to Section 4.4.2 below for a description of limitations.

#### **4.4.2 IST Unique Operations**

IST users can only enter and execute ECL directives from the Control Window or Mini-Control Window; IST users cannot enter ECL directives from the Command Control Window. The Control and Mini-Control Windows are not available in standalone mode.

IST users can only enter and execute ECL directives included in Release A. IST users cannot execute real time ECL command directives (e.g., ECL directives preceded by CMD or /).

### **4.5 Common Services**

#### **4.5.1 Applicability of FOS Operations Tools Manual Section 7**

The Event Message Display procedures described in Section 7.8 of the FOS Operations Tools Manual are applicable to IST operations in the connected mode.

The Display Builder procedures described in Section 7.9 of the FOS Operations Tools Manual are applicable to IST operations.

The Room Builder procedures described in Section 7.10 of the FOS Operations Tools Manual are applicable to IST operations in the connected mode.

#### **4.5.2 IST Unique Operations**

Event messages are only available to ISTs in the connected mode.

### **4.6 Scheduling Services**

#### **4.6.1 Applicability of FOS Operations Tools Manual Section 8**

##### **4.6.1.1 Activity Definer Tool**

Partial functionality of the Activity Definer Tool is implemented at ISTs. Capabilities described in Section 8.1 of the FOS Operations Tools Manual which apply to ISTs are outlined below.

New activities can be locally defined and are stored at the IST. All components of an activity must be associated with a single Resource. Existing, locally defined, activities may be modified and deleted from the resource model and test database by an authorized IST user. Orbit events and Resources are limited to those pre-defined in the database. ECL real time command directives may not be entered in an activity.

##### **4.6.1.2 Baseline Activity Profile (BAP) Definer Tool**

Partial functionality of the BAP Definer Tool is implemented at ISTs. Capabilities described in Section 8.1 of the FOS Operations Tools Manual which apply to ISTs are outlined below.

BAPs can be locally defined and stored in accordance with the procedures described in Section 8.2. Locally defined BAPs may be modified and deleted. Orbit events in BAPs are limited to those predefined in the database. BAPs cannot be scheduled.

#### **4.6.1.3 General Scheduler Tool**

Partial functionality of the General Scheduler Tool is implemented at ISTs. Capabilities described in Section 8.1 of the FOS Operations Tools Manual which apply to ISTs are outlined below.

Activities predefined within the operational or test database can be scheduled on a local schedule in accordance with the procedures outlined in Section 8.3. Load uplink, TDRSS contact (Tracking and Data Relay Satellite System), individual command, command procedures and BAP scheduling are not available. Orbit events in scheduling activities are limited to those predefined in the database. Activities cannot be deleted (unscheduled).

#### **4.6.1.4 Timeline Tool**

The Timeline Tool capabilities described in Section 8.4 of the FOS Operations Tools Manual are applicable to IST operations. A new, “what-if” schedule (plan) can be created or an existing schedule can be opened via the Timeline Tool. Existing plans can be manipulated or deleted by users with plan manipulation capabilities. Resources displayed on the Timeline can be updated from the predefined list included in the database by users with plan manipulation capabilities. Manipulation capabilities are granted to the plan creator as well as to users specified in the plan by the plan creator. IST users cannot delete the master plan created by the EOC.

#### **4.6.1.5 ASTER Filter**

Partial functionality of the ASTER Filter is implemented at ISTs. Capabilities described in Section 8.8 of the FOS Operations Tools Manual which apply to ISTs are outlined below.

The ASTER Filter can receive, process and schedule One Day Schedules (ODSs) and Short Term Schedule (STSs) on a local schedule. The ASTER Filter is initiated via a startup script during user station startup. The polling process which triggers the ASTER Filter to begin processing an incoming file is a Release B capability. Production of Preliminary Resource Schedules, Activity Schedules and Detailed Activity Schedules is not available.

#### **4.6.1.6 Generating Loads**

The four graphical tools, Load Generator, Load Manager, RTS Load Builder and Table Load Builder, described in Section 8.9 of the FOS Operations Tools Manual are not included in Release A IST capabilities.



## **4.6.2 IST Unique Operations**

### **4.6.2.1 Activity Definer Tool**

The Activity Definer tool is started via the startup script rather than the Tools menu of the Control or Mini-Control Window.

### **4.6.2.2 Baseline Activity Profile (BAP) Definer**

The BAP Definer is started via a startup script rather than the Tools menu on the Control or Mini-Control Window.

### **4.6.2.3 General Scheduler Tool**

The General Scheduler is started via a startup script rather than the Tools menu on the Control or Mini-Control Window. User privileges for scheduling are not implemented in Release A.

### **4.6.2.4 Timeline Tool**

The Timeline is started via a startup script rather than the Tools menu on the Control or Mini-Control Window.

### **4.6.2.5 ASTER Filter**

None.

## **4.7 Real Time Services**

### **4.7.1 Applicability of FOS Operations Tools Manual Section 9**

The following Real Time Services procedures described in Section 9 of the FOS Operations Tools Manual for the following functions are not applicable to IST operations:

- a. Logical string creation
- b. Failure recovery
- c. User authorization (command authority and ground control authority)
- d. Logical string deletion
- e. Telemetry directives
- f. Memory dump
- g. State check
- h. Ground telemetry processing
- i. Command processing.

The procedures for User Connection to a logical string are applicable to IST operations. Refer to Section 4.7.2 below for a description of IST-unique clarifications.

## **4.7.2 IST Unique Operations**

The Logical String User Connection procedures described in Section 9.2.4 of the FOS Operations Tools Manual are applicable to IST operations, with the following clarifications:

To Determine Which Logical Strings are Available for User Connection:

- a. The IST must be connected to the EOC (“connected” mode) prior to connecting to a real time logical string.
- b. The logical string that will be used for Release A connectivity testing for the ISTs is logical string 100; “string=100” should be specified in the connection request.
- c. For Release A, only Mirrored connections are permitted; “config=MIRROR” should be specified in the connection request.

After connection to a logical string, an IST user may view spacecraft and instrument telemetry parameters via pre-defined Dynamic Page displays.

## **4.8 Off-Line Services**

### **4.8.1 Applicability of FOS Operations Tools Manual Section 10**

The Off-Line Services procedures described in Section 10 of the FOS Operations Tools Manual are not applicable to IST operations.

### **4.8.2 IST Unique Operations**

In order to perform offline analysis requests, the user must FTP the required telemetry archive files from the EOC to the IST. The directory that contains the telemetry archive files will be the same at the IST and the EOC: /fos/am1/tlmarchive.

## **4.9 EOC File Management**

### **4.9.1 Applicability of FOS Operations Tools Manual Section 11**

The EOC File Management procedures described in Section 10 of the FOS Operations Tools Manual are not applicable to IST operations.

### **4.9.2 IST Unique Operations**

None.

## **4.10 ECS Command Language (ECL)**

### **4.10.1 Applicability of FOS Operations Tools Manual Appendix A**

All ECL Release A directives described in Appendix A may be utilized in the Procedure Builder Tool. Real time command directives, which are preceded by CMD or /, cannot be executed by the IST but may be utilized in the Procedure Builder tool.

### **4.10.2 IST Unique Operations**

None.

## **4.11 FOS Events**

### **4.11.1 Applicability of FOS Operations Tools Manual Appendix B**

The FOS Events described in Section 10 of the FOS Operations Tools Manual are applicable to IST operations when the IST is connected to the EOC

Event messages are not visible to the IST when the IST is in standalone mode.

### **4.11.2 IST Unique Operations**

None.

## **4.12 Ground Parameters**

### **4.12.1 Applicability of FOS Operations Tools Manual Appendix C**

The FOS ground parameters described in Appendix C of the FOS Operations Tools Manual are not applicable to IST operations.

### **4.12.2 IST Unique Operations**

None.

## **4.13 Carry-Out File Format**

### **4.13.1 Applicability of FOS Operations Tools Manual Appendix D**

The FOS Analysis carry-out file format described in Appendix D of the FOS Operations Tools Manual is not applicable to IST operations.

### **4.13.2 IST Unique Operations**

None.

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## 5. Problem Reporting

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### 5.1 Submission of Problem Reports

IST operators submit problem reports related to the Release A IST toolkit by filling in and submitting a problem report form via a world wide web page. No additional software is necessary for problem reporting. The problem report can be submitted from any computer with a Netscape browser and access to the World Wide Web.

To submit a problem report, users start the Netscape browser and type in the address of the FOS IST Problem Reporting home page which will be provided via separate documentation at a later date. Once the home page is open, the user will be prompted to enter a user name and password (ISTs will be provided with user names and passwords in separate documentation at a later date). After entering a valid user name and password, the operator may complete a problem report by entering the information requested in the form fields and submitting the report.

IST operators should only submit problem reports related to the functionality of the Release A IST described in Sections 3 and 4. Users should not submit problem reports on functionality or performance enhancements that are planned for delivery in the Release B ECS IST.

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# Abbreviations and Acronyms

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ATC	Absolute Time Command
BAP	Baseline Activity Profile
COTS	Commercial Off-the-Shelf (software)
DAS	Detailed Activity Schedule
DDTS	Distributed Defect Tracking System
ECL	ECS Command Language
ECS	EOSDIS Core System
EOC	EOS Operations Center
EOS	Earth Observing System
EOSDIS	EOS Data and Information System
FOS	Flight Operations Segment
IST	Instrument Support Terminal
NCR	Non Conformance Report
ODS	One Day Schedule
PDB	Project Data Base
STS	Short Term Schedule
TDRSS	Tracking and Data Relay Satellite System
VDD	Version Description Document

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